

Reclamation Manual

Directives and Standards

Subject: Power System Reliability

Purpose: Establishes standards for voluntary compliance with reliability criteria.

Authority: The Reclamation Act of 1902 (Act of June 17, 1902, 32 Stat. 388), the Town Sites and Power Development Act of 1906 (Act of April 16, 1906, ch. 1631, 34 Stat. 116), Reclamation Project Act of 1939 (Act of August 4, 1939, ch. 418, 53 Stat. 1187), the Flood Control Act of 1944 (Act of December 22, 1944, ch. 665, 58 Stat. 887), Energy Policy Act of 1992 (Act of October 24, 1992), and acts relating to individual dams or projects.

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1. **Introduction.** Historically, Reclamation projects have aided in maintaining power system reliability. The power system disturbances in the 1960s resulted in voluntary reliability criteria to be met by system participants. The changes in the electric power markets resulting from the Energy Policy Act of 1992 and the Federal Energy Regulatory Commission's resulting regulations have caused changes to the power system and the reliability organizations. The existing reliability organizations are the Western Electricity Coordinating Council (WECC) and North American Electric Reliability Council (NERC).
2. **Reliability Organizations.**
 - A. **Western Electricity Coordinating Council (WECC).**
 - (1) **Background.** WECC was created on April 18, 2002, by merger of the Western Systems Coordinating Council, the Western Regional Transmission Association (WRTA), and the Southwest Regional Transmission Association (SWRTA). Reclamation is a member of WECC and voluntarily adheres with WECC policies. WECC is one of 10 reliability councils in North America. It covers 14 western states, two Canadian provinces, and portions of one Mexican state. All but one of Reclamation's powerplants are within the WECC area.
 - (2) **Location of WECC Standards.** The WECC Operations Committee Handbook is available at the WECC web site.
 - B. **North American Electric Reliability Council (NERC).**
 - (1) **Background.** NERC was created in 1968 as a voluntary organization to promote bulk electric system reliability and security. In promoting electric system reliability and security, NERC:

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- (a) establishes operating policies and planning standards to ensure electric system reliability;
- (b) reviews the reliability of existing and planned generation and transmission systems;
- (c) critiques past electric system disturbances for lessons learned and monitors the present for compliance and conformance to its policies;
- (d) educates others about how bulk electric systems operate;
- (e) maintains liaisons with the federal, state, and provincial governments in the United States, Canada, Mexico and electricity supply industry organizations in each country;
- (f) serves as the electric industry's primary point of contact with the federal government on issues relating to national security and terrorism.

NERC's membership is unique. As a not-for-profit corporation, NERC's members are ten Regional Councils. The members of these Regional Councils come from all segments of the electric industry; investor-owned; federal power agencies; rural electric cooperatives; state, municipal and provincial utilities; independent power producers; power marketers; and end-use customers. These entities account for virtually all the electricity supplied in the United States, Canada, and a portion of Baja California Norte, Mexico.

- (2) **Location of NERC Standards.** The NERC Policies, Standards, Principles, and Guides are available at the NERC web site.
3. **Reliability Standards.** Reclamation's generation facilities shall be operated to voluntarily adhere to the reliability standards of the NERC and WECC. However, meeting these standards shall not adversely impact the irrigation function; adversely impact other legal obligations of a Reclamation project; cause damage to Reclamation equipment; or substantially increase the cost of service. Standards that may be established include, but are not limited to:

- Automatic Voltage Regulator (AVR)
- Automatic Generation Control (AGC)
- System Black Start Capability
- Generator Outages
- System Frequency
- Power System Stabilizers (PSS)
- Incident investigations

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Power Transmission

Additional information concerning these reliability standards and any additional reliability standards that may be promulgated may be found in Facilities Instructions, Standards and Techniques (FIST) 1-11.

4. **Reporting of Reliability Statistics.** Reclamation's Power Resources Office will determine which of the reliability statistics it will report on a voluntary basis.